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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,634	10/17/2003	Shunichi Seki	104741.01	8919
25944	7590	02/10/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			WILSON, SCOTT R	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/686,634

Applicant(s)

SEKI ET AL.

Examiner

Scott R. Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/29, 8/19, 9/1, 11/2, all 2004 & 10/17/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim language "a contact angle of said fluid to the surface of said banks", and "while to the surface of said partitioned area" is ambiguous. The contact angle needs to be specified in terms of an angle between two lines, for example, a line along or normal to a surface, and a line along or normal to the surface of the fluid.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-5 and 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Yudasaka. As to claim 1, Yudasaka, Figure 1, discloses a thin film patterning substrate, comprising: a substrate (100), banks (110), each of which includes an organic substance (121)(paragraph [0042]) at least on its surface, said banks being formed above said substrate and partitioning a surface of the substrate into a plurality of areas, each of said areas including an inorganic substance (100)(paragraph [0065]); and a thin film (131) arranged in at least one of said areas, the thin film being made from a fluid, wherein said banks exhibit

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non-affinity for the fluid, said non-affinity being greater than that of said partitioned areas (paragraph [0039]).

As to claim 2, Yudasaka, paragraph [0040], discloses that the inorganic substance is ITO.

As to claim 3, Yudasaka, paragraph [0042], discloses that said organic substance may be polyimide.

As to claim 4, Yudasaka, paragraph [0090], discloses that the organic semiconductor film in the embodiment of Figure 7 is typically formed with thickness 0.05  $\mu\text{m}$  to 0.2  $\mu\text{m}$ , and this thickness may also be used for the embodiment of Figure 1. The Banks of Figure 1 are several multiples of this thickness, and are therefore within the scope of being from 1  $\mu\text{m}$  to 2  $\mu\text{m}$ .

As to claim 5, Yudasaka, Figure 1, discloses that organic layer (121) has a side surface and an upper surface.

As to claim 7, Yudasaka, paragraph [0069], discloses that the thin film may include a colored resin.

As to claim 8, Yudasaka, paragraph [0039] discloses that the thin film may include an organic semiconductor.

As to claim 9, Yudasaka, Figure 1, discloses that the thin film may be formed as a multi-layer structure.

As to claim 10, Yudasaka, paragraph [0046], discloses that the thin film includes at least one of a light emitting layer, a hole injection layer, and an electron injection layer.

As to claim 11, Yudasaka, paragraph [0040], discloses that there may be a thin film transistor formed above said substrate.

Claims 12-16 and 18-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Yudasaka. As to claim 12, Yudasaka, Figure 1, discloses a thin film patterning substrate, comprising: a substrate (100), banks (110) being formed above said substrate and partitioning a surface of the substrate into a plurality of areas, said banks comprising a first layer including an inorganic substance (111)(paragraph [0041]) and a second layer including an organic substance (121)(paragraph [0042]), a thin film (131) arranged in at least one of said areas, the thin film being made from a fluid, wherein said banks exhibit

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non-affinity for the fluid, said non-affinity being greater than that of said partitioned areas (paragraph [0039]).

As to claim 13, Yudasaka, Figure 1, discloses that said first layer (111) is disposed above said substrate (100) and wherein said second layer (121) is disposed above said first layer.

As to claim 14, Yudasaka, paragraph [0041], discloses that said first layer exhibits affinity for the fluid which is greater than that of said second layer.

As to claim 15, Yudasaka, paragraph [0041], discloses that a surface of said partitioned areas exhibits affinity for the fluid which is equal to or greater than that of said first layer.

As to claim 16, Yudasaka, paragraph [0040], discloses that the surface of said portioned areas includes an inorganic substance, embodied as ITO.

As to claim 18, Yudasaka, paragraph [0040], discloses that the first layer (111) may be formed from quartz, which is silicon dioxide, and is within the scope of being silicon oxide.

As to claim 19, Yudasaka, paragraph [0040], discloses that the inorganic substance is ITO.

As to claim 20, Yudasaka, paragraph [0042], discloses that said organic substance may be polyimide.

As to claim 21, Yudasaka, paragraph [0090], discloses that the organic semiconductor film in the embodiment of Figure 7 is typically formed with thickness 0.05  $\mu\text{m}$  to 0.2  $\mu\text{m}$ , and this thickness may also be used for the embodiment of Figure 1. The Banks of Figure 1 are several multiples of this thickness, and are therefore within the scope of being from 1  $\mu\text{m}$  to 2  $\mu\text{m}$ .

As to claim 22, Yudasaka, Figure 1, and paragraph [0043], discloses that the thickness of said thin film is approximately equal to that of the first layer.

As to claim 23, Yudasaka, paragraph [0039] discloses that the thin film may include an organic semiconductor.

As to claim 24, Yudasaka, paragraph [0069], discloses that the thin film may include a colored resin.

As to claim 25, Yudasaka, paragraph [0040], discloses that there may be a thin film transistor formed above said substrate.

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Claims 26 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Yudasaka. As to claim 26, Yudasaka, Figure 1, discloses a thin film patterning substrate, comprising: a substrate (100), banks (110) being formed above said substrate and partitioning a surface of the substrate into a plurality of areas, said banks comprising a first layer (111)(paragraph [0041]) and a second layer (121)(paragraph [0042]), a thin film (131) arranged in at least one of said areas, the thin film being made from a fluid, wherein a surface of said first layer exhibits affinity for the fluid which is greater than that of said second layer (paragraph [0039]).

As to claim 27, Yudasaka, paragraph [0039], discloses that the surface of said partitioned areas exhibits affinity for the fluid that is greater than that of said first layer.

Claims 28 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Yudasaka. As to claim 28, Yudasaka, Figure 1, discloses a thin film patterning substrate, comprising: a substrate (100), banks (110), each of which includes an organic substance (121)(paragraph [0042]) at least on its surface, said banks being formed above said substrate and partitioning a surface of the substrate into a plurality of areas, each of said areas including an inorganic substance (100)(paragraph [0065]); and a thin film (131), embodied as a semiconductor material capable of emitting light (paragraph [0046]), arranged in at least one of said areas, the thin film being made from a fluid, wherein said banks exhibit non-affinity for the fluid, said non-affinity being greater than that of said partitioned areas (paragraph [0039]).

As to claim 29, Yudasaka, paragraph [0046], discloses a plurality of semiconductor materials, each of which is capable of emitting light different in color in a respective one of the areas.

Claims 30 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Yudasaka. As to claim 30, Yudasaka, Figure 1, discloses a thin film patterning substrate, comprising: a substrate (100), banks (110) being formed above said substrate and partitioning a surface of the substrate into a plurality of areas, said banks comprising a first layer including an inorganic substance (111)(paragraph [0041]) and a second layer including an organic substance (121)(paragraph [0042]), a thin film (131), embodied as a semiconductor material capable of emitting light (paragraph [0046]), arranged in at least one of said areas, the thin film being made from a fluid, wherein said banks exhibit non-affinity for the fluid, said non-affinity being greater than that of said partitioned areas (paragraph [0039]).

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As to claim 31, Yudasaka, paragraph [0046], discloses a plurality of semiconductor materials, each of which is capable of emitting light different in color in a respective one of the areas.

Claims 32-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Yudasaka. As to claim 32, Yudasaka, Figure 1, discloses a thin film patterning substrate, comprising: a substrate (100), banks (110) being formed above said substrate and partitioning a surface of the substrate into a plurality of areas, said banks comprising a first layer (111)(paragraph [0041]) and a second layer (121)(paragraph [0042]), a thin film (131), embodied as a semiconductor material capable of emitting light (paragraph [0046]), arranged in at least one of said areas, the thin film being made from a fluid, wherein a surface of said first layer exhibits affinity for the fluid which is greater than that of said second layer (paragraph [0039]).

As to claim 33, Yudasaka, paragraph [0039], discloses that the surface of said partitioned areas exhibits affinity for the fluid that is greater than that of said first layer.

As to claim 34, Yudasaka, paragraph [0046], discloses a plurality of semiconductor materials, each of which is capable of emitting light different in color in a respective one of the areas.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott R. Wilson whose telephone number is 571-272-1925. The examiner can normally be reached on M-F 8:30 - 4:30 Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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srw

February 1, 2005



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